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OCULAR ORIENTATION

A Super-Faculty of the Eyes
PART I

A. W. Hazen, Opt. D.
San Francisco, Calif.

The title I have given the subject I am going to write on—"Ocular Orientation, a Super-Faculty of the Eyes"—technically defined by Webster would be a misnomenclature, but this term appeals to me as a very appropriate one relative to this function of eye faculty which has been a much neglected one by the average refractionist, and yet is no less important than vision itself because a high quality of "ocular orientation" is most essential to good health, efficiency in industry, and safety from accidents.

Did it ever occur to you or have you ever investigated why, in many persons having normal vision, there will be a great deal of difference in these same persons as to their efficiency or capacity for quick action, or as to their endurance in a given work or sport? For instance—

A printer feeding an automatic press—One man will be able to feed the press much faster and without fatigue than another; one stenographer will be able to write faster, space and type more accurately, than another, and can continue throughout the day's work without fatigue or without stopping to rest every little while; in automobile driving, aviation, train or street car, you will see a marked difference among individuals as to alertness, judging of distances, avoiding accidents, etc., and also in the expertness and quickness of action in playing golf, tennis, or shooting, etc., and in the endurance to last in any strenuous occupation or sport there is a marked difference between individuals. Many other instances similar to the above have come to my attention in these various investigations—where the vision was normal; the desire to work or accomplish was not lacking, but the eyes were unable to orientate, or in other words, the eyes were unable to change fast enough to the various positions required, or the power of endurance was low, bringing on fatigue.

How many automobile accidents, train accidents, airship accidents and personal, as well as industrial accidents, are due, not to imperfect vision, but to improper equilibrium of quick and positive fixation on quick-moving objects?

How much inefficiency in industry is due, not to faulty vision, but to the low innervation of the fixation muscles of the eyes, thus making it difficult to carry on the function of a normal day's work?

Thousands of people give up watching motion pictures, go only occasionally, or when they do go they come out with a nervous headache and a general fatigue; not because of faulty vision, but simply because of the inability of the fixation muscles of the eyes to carry on or adjust themselves to the quick continued changes of the pictures. Sickness and headaches from car or train riding are other true manifestations of a depleted and non-enduring capacity of the fixation eye muscles.

This opens a tremendous field for the refractionist, where we can be of even greater service to humanity. This work and field of endeavor should be carried into industrial and business establishments to increase their efficiency without greater overhead; it should be carried into and brought before safety councils as one of the greatest preventives of accidents—no man or woman should be allowed to drive an automobile who hasn't normal vision and above all a power of fixation that is quick and positive.

I have had many cases come under my observation in industrial establishments where, with proper glasses and the proper training of fixation that I am positive in making the statement that any industrial plant can increase

the efficiency of their workers anywhere from 10 to 40%.

Now, as to the analysis and procedure which I am going to present in this paper I claim no originality, but it does represent exhaustive research, study and experience, which has convinced me without any doubt that we are just beginning to get into the biggest field for our activities and that in the past we have only touched the small end of the possibilities of our profession. We owe everlasting gratitude to such men as Von Graeffe, Sheard, Wiseman, Hazen, Eberhardt, Savage, Noyes, and many others for their valuable scientific contributions to eye work, but much of this material has come to us in a more or less piecemeal manner and not as a complete, concrete and definite method for us to use in our practice on this particular class of work. Just before his death Dr. E. H. Hazen had published a 160-page treatise devoted entirely to this subject of "Fixation" or Ocular Orientation, and I personally advise everyone interested in this work to read it. It represents an exhaustive research covering thirty years or more by one who has done everything from graduated tenotomies, total tenotomies, fitting and prescribing of prisms, to the present system outlined in this valuable text.

This work of correcting "fixation" troubles has been a discouraging one to many of us from the fact that many misleading articles have been written on this subject and when followed out in practice results are not obtained, so the practice is given up as useless.

First of all we must have a brief review of the underlying principles as applied to this work, and I shall begin with anatomy.

Anatomy

In taking up the subject of anatomy I will begin briefly with the principal nerves which control the faculties and actions of the eyes. Let us begin with the second or optic nerve. This, as you all know is the nerve which spreads out to form the retina, and which conveys the retinal impressions to the brain and gives us the sensations of sight. Our principal concern with this nerve deals more with refractive work, and is important in a discussion on muscles, principally from the standpoint of its ability to stimulate the fusion centers.

Then we have the fourth nerve, a nerve whose principal function is to create motion. It controls the action of the superior oblique muscle, which is susceptible to two forms of training —prisms and the double Maddox rod.

Then we have the sixth nerve, also a nerve of motion, controlling the external rectus muscle. This muscle is also susceptible to prism training to develop innervation.

Next in order is the third nerve, which controls the following muscles: Levator palpebrae superiorus, the superior rectus, the internal rectus, the inferior rectus, inferior oblique, and then by a connection through the ciliary ganglion we have the sphincter muscles of the iris. Thus we have seven out of eleven principal muscles of the orbit controlled through this nerve. When you stop to consider that by the simple process of one manipulation intelligently applied, we can restore tone and strength to seven separate muscles so important to the comfortable function of the eyes, isn't it strange that so little attention has been paid to this phase of our work?

The aforementioned nerves and muscles constitute the motive power and the parts of this wonderful mechanism; now let us see how they work.

First of all, the most important element for success in muscle training is the **fusion faculty**; it is the one basic point on which all our work must be founded, and I consider it second in importance only to the faculty of sight itself. Therefore, it is extremely important that we have a correct understanding of this faculty before we can proceed.

Let us begin by a simple statement of what fusion is, what brings it about, and analyze the actions necessary for bringing it into play. Fusion is nothing more than the joining of two separate images, as formed in each eye, to form one single image. As is well known, before this can be accomplished it is necessary that the images to be fused must be exactly centered on the corresponding points of each retina, simultaneously. Now let us analyze how this is brought about: When we wish to fix an object each eye is rotated toward the object looked at, so that if a line were drawn it would begin with that object, pass through the approxi-

mate center of the cornea, through the center of rotation of the eye, and end at the fovea centralis. Now, let us see how the eyes get into this position. The answer, of course, is that the recti turn them there. In order to secure any muscle action, however, there must be two predisposing factors, viz., a stimulation and a reactive nervous impulse. In other words, if it became necessary for a muscle to act in the interest of fusion, there must be sent to the brain a message for nervous energy to be released, and when it is released it must go directly to the muscle and contract its fibres; therefore, whenever a muscle acts in the interest of binocular vision, there has to be two separate and distinct nervous conditions—a stimulation and an impulse.

Suppose we turn our head toward a light, our eyes are not in a position to receive the images of that light upon the macula; but the images fall on the area adjoining the macula and for the smallest fraction of an instant we have diplopia of secondary vision. The fusion faculty is so alert, however, that when the image falls on the area around the macula, it immediately sends a stimulation to the nerve center in the brain, which responds with a nervous impulse to the muscle that will turn the eye to a position where it will receive the image on corresponding points of the retina. This action is performed so quickly that we have no sense of double vision. In other words, you cannot secure any action of the eye muscles in the interest of single vision without first stimulating them by the fusion faculty. Neither can duction be brought into play, for duction is nothing more than the power which the fusion sense holds over concerted muscular action. In our present work the interni are the principal muscles under discussion. This is why I said that next to sight itself, the fusion faculty is second in importance for successful vision.

Now, these stimuli going from the retina to the nerve centers and the impulses sent to the muscles from the nerve centers are in a sense similar to electric currents. For example we might consider these centers as storage batteries which receive and send out electricity over wires, only in speaking of them, we call them nerve centers instead of batteries, and the force they send out as neuricity, and instead of wires this neuricity travels over nerve fibres. In speaking of electricity the amount of energy a battery can store is regulated by its size, and the amount a wire can carry or a motor can use is regulated by placing a fuse of lead in the circuit. Should the electric current be increased above the capacity limits, the fuse will give way and prevent damage. Now, as the resistance of the wire is decreased and the strength of the fuse is increased, more energy can be transmitted. To apply this example to the ocular nerves and muscles: The nerve fibres are the wire, the muscles represent the motor, while fusion is the protection element. Now, when neuricity is increased to a point where an injury or strain might result, the fusion breaks and relieves the tension. And just as the capacity of batteries, wires and fuses can be increased by enlarging them, so can nerve centers and neuricity pathways and the fusional sense be developed by intelligent treatment, thereby increasing their capacity for storing and transmitting more energy.

The first innervation stimuli, as I have said, originate with the fusion faculty and go to the duction basal brain centers for the control of the ocular muscles. These duction basal centers, on receiving these stimuli, send impulses direct to the muscle fibres. The following quotation from Savage brings this out nicely:

"There is one basal center for each ocular muscle, and each center can act on only one muscle. The basal centers are all under control of the fusion faculty of the mind, and none of them are ever called upon to discharge neuricity unless a condition exists that would cause diplopia."

This gives a clear understanding also of why a pair of eyes grow fatigued when engaged in near work for any length of time, as it uses up the nervous energy or innervation of the basal centers controlling the active muscles of convergence and accommodation. Further, the statement which Dr. Savage makes that the basal centers are under the control of the fusion faculty of the mind is most important because it directs us to the very faculty on which we must concentrate our corrective measures. I will refer to this later under the subdivision of treatments.

(To be Continued)

BLINDNESS FROM A FOCAL INFECTION

Eugene G. Wiseman, Opt.D., F.A.A.O.

Buffalo, New York

Of course the effect upon the eyes of focal infections of one kind or another has been dwelt upon at great length in ophthalmic literature, but few cases present the more or less spectacular set of conditions which accompany the one herein reported.

Even were similar cases reasonably common it would not be amiss frequently to present them for attention because the results of focal infections are brought about so insidiously and the ramifications of the condition are so extensive that constant vigilance is demanded. A great many of the cases of photophobia commonly encountered are due to the toxins of focal infections. Indeed, it is tempting to assert that practically every case of photophobia is pathologic in the strictest sense of the term and that a majority of the pathogens are of focal origin—teeth, nose, sinuses, or tonsils. It follows that many of the other symptoms of eyestrain also are of focal origin, but photophobia is perhaps the commonest one.

On a Thursday morning, Mr. T. G. T. was led into my office by his wife. He was totally blind. He stated that during the previous evening he had attended a "party" and had had half a dozen drinks of an uncertain concoction. Later in the evening he became blind (though he did not admit intoxication) and he retired in that condition.

The following morning he was still blind when he awoke; then something seemed to "snap" and his vision cleared for a moment, but then died away again.

As a matter of routine and record several tests were made. The keratometer revealed no astigmatism. The skiascope gave, statically, O. D. + 2.25, O. S. + 2.00, and dynamically a quarter diopter more, both findings interesting in view of the + 1.00 O. U. spheres given him later.

Much to my surprise the ophthalmoscope revealed a perfectly normal fundus, as far as could be ascertained. Arteries and veins seemed to be of normal calibre and the nerve head quite characteristic of a healthy condition.

The natural conclusion, after the man had submitted the above history, was that he was suffering from alcohol poisoning, but the absence of some symptoms made it extremely desirable to obtain further data.

Further questioning elicited the information that he was having severe pains on the right side of his face—both upper and lower jaw—and then he stated that he had been having these pains and strange visual disturbances for two weeks! The astonished examiner, still disposed to believe that the cause of the blindness was alcoholic, exclaimed, "Do you mean to say that you have been drinking that stuff for two weeks?" and the consultant replied that he had not imbibed alcoholic drinks for six weeks previous to the preceding night.

This gave the matter an entirely different aspect. Some other cause must be sought, for it was obvious that alcohol imbibed at one time could cause no symptoms a week previous.

The condition of the teeth was inquired into, and it was stated that they were not in good shape. Palpation revealed a positive lump on the lower jaw. The consultant was immediately taken to the dentist in the adjoining office and the latter extracted a lower tooth in the region of the lump and about a teaspoonful of pus escaped.

The consultant returned to the writer the following Saturday and could count fingers at five feet. At the same time two more teeth were extracted, and on the following Tuesday his vision was 100% each eye, without glasses. His age being only thirty-five years, the refractive error naturally did not affect visual acuity. He was given + 1.00 spheres, and on the following Saturday his vision was 125%.

In the absence of more definite findings it seems natural to conclude that the suspension of vision in this case

was due to pressure. The pus backed up from the source until there was pressure upon the nerves in the neighborhood of the chiasm. When he sensed the "snapping" sensation and vision cleared, it is evident that a quantity of pus escaped and lowered the pressure, but there was further accumulation which again increased the pressure and vision again declined.

PRACTICAL NOTES AND CURRENT REFRACTIVE TOPICS

R. M. Peckham, Opt.D., F.A.A.O.
Waterbury, Conn.

MAKE THE READING TEST IN THE NATURAL READING POSITION

In our office tests we are too prone to forget that the act of convergence for near objects is not inward, but it is also decidedly downward. In those far distant days when one of our "furry ancestors" first discovered that he wanted to examine with his eyes that which he held in his front paw, convergence and its association with accommodation had its incipience. And he must have looked down, for to this day our natural impulse when we look at an object in our hands is to hold it below the primary level of the eyes and look down at it.

All near point tests should be made with the patient looking down, holding the test object at his natural reading or working position. There is decided difference in amount between the convergence reserve when we look down than when we look straight ahead. There is a decided difference in the amplitude of accommodation when the measurements are made in the two positions. The phoria tests give different readings in the two positions. We find pseudo hyperphorias and cyclophorias when we make the tests at the near point with the patient looking straight ahead, all of which disappear when he is allowed to take the test card in his hand and hold it in his natural reading position, with the eyes cast down.

Many a recorrection might have been avoided if the refractionist had remembered this one point, and used his trial frame and trial case lenses instead of the phoro-optometer in working out the proper reading correction.

THE 40 MM. ROUND LENS

The History of Spectacles and Eyeglasses written a couple of generations hence will refer to the present period as "The Epoch of the 40 mm. Round Lens." Everywhere we look, we see the ubiquitous 40 mm. round lens. On the faces of the tall, the short, the giant, the dwarf, the fat, the lean, always and eternally the 40 mm. round lens. White men, black men, yellow men, red men, all bedecked with 40 mm. round lenses. Be the p. d. 60, 55, 65, 70, all accommodate the 40 mm. round lens. Flapper, school-boy, matron, octogenarian, college youth, business man, wharf-rat, millionaire, charity patient, society leader, motherly housewife, all meet on common ground, the 40 mm. round lens. Bushy eyebrows may sweat and soil them, butterfat faces may steam and swelter in them, yet this must be suffered, for has not the optician given them the only glass procurable, the 40 mm. round lens? High noses and sunken cheeks make no difference, still nothing is dispensed but the 40 mm. round lens. Though their wearer looks under them and around them and over them, still he may only have the 40 mm. round lens. Though they dig into her cheeks and lift and bob when she laughs, still the "chunky" dame may have nothing but the 40 mm. round lenses.

Throughout this country today there are scores, nay, hundreds, of optical offices and stores where there is not a frame in stock of other than the 40 mm. size. Men are buying stock lenses ready edged, both in spheres and compounds, all of the 40 mm. round size.

It wouldn't be so bad, if the lenses were decentered so that the optical centers were in front of the pupils. But

it never seems to occur to the 40 mm. round "Fan" (or shall we call him "fiend") to decenter a lens. So the poor patient must tolerate prism out or prism in, as the case may be. It speaks well, tells a wonderful story, of the ability of the human eyes to adjust themselves to imbalances, when they are able to manage these prisms without feeling torture.

Indeed, one optometrist told me, most naively, that the "horizontal muscles were so powerful they didn't mind the effort of overcoming a little prism" and it "was ever so much cheaper to use only the one size, because then he could make necessary recorrections at less expense." I wonder how many of these recorrections he could have avoided had he carefully balanced the efforts of convergence and accommodation and left no repression or unneeded innervation by those prisms for the sake of a few pennies saved. 'Tis not thus that a successful practice is built up.

A person is not necessarily "in style" because she has an exact duplicate in wearing apparel of some other person, regardless of its suitability to her. Many persons look better in oval lenses than in round, and when the fitter gives a woman something she really looks well in she is going to be a booster. It doesn't always pay to let the client boss the job, sooner or later he or she is going to realize they made a mistake. Of course, the lazy man will always use the easiest thing to come by, but lazy men are poor optometrists.

TEMPLE ADJUSTMENT

In fitting zylonite and shell frames, the temples should not press into the face, especially with straight and skull-form temples. For this pressure pushes the glasses forward, and the wearer must forever be pushing them back. Neither should they be "sprung" or bowed out. If they rest against the face, file away the angle at the stop, until they open out enough.

But if they open too wide, do not try to bow them inward, but build up the stop at the end-piece. Dissolve some old rims in an ounce of amyl-acetate, cork tight and keep ready for such jobs. Put a little of this thick "liquid celluloid" at the joint, press the temple angle against it to form correct angle, let it harden (takes about an hour), file off the rough corners, polish with a drop of amyl-acetate, and there you are, with a good job instead of a poor one.

Even better than amylacetate, as a solvent and as a polisher, is photographic film cement. If your photo supply house does not keep it in stock, have him order a dozen ounce bottles for you. It will come in handy for a great many different purposes. Put a drop into the shoe of a shelltex frame when you have to put in new rims. Use it to polish up disreputable looking zyl frames.

A NEW THEORY OF LIGHT

The Electrical Review (London) of May 15, 1925, carries a short description of a theory advanced by Sir J. J. Thomson, in which he reconciles the corpuscular theory of Newton and the wave theory of Huyghens, and proves that both were partly right. Many physicists had about reached the point where they were willing to abandon the undulatory theory of wave propogation and accept the corpuscular theory which so satisfactorily explains the electrical phenomena of light. The undulatory theory fell in nicely with optical light theories, but failed to account for the "electrical" effects, just as the corpuscular theory fell down when applied to optics. Now Thomson at a brilliant stroke constructs a plausible theory that embraces both. As similar occurrences have brought about reconcilement and advance in other fields of science, so we may at least hope that Thomson's work may eventually enlighten us and lead to new inventions in the realm of optics. Meanwhile, we await the time when the full theory can be reduced to language "understandable by the people."

ABSTRACT DEPARTMENT

Optometric and ophthalmic journal articles and reprints to be abstracted should be sent to Dr. G. L. DuPlessis. Only papers on subjects of interest to optometrists will be reviewed in this department.

Landolt, Marc. The Chiasma and Binocular Vision (Chiasma et Vision Binoculaire). Arch. d'Ophthal., April, 1924.

Landolt discusses the question of binocular vision in animals with complete crossing of the optic paths at the chiasma. He advances arguments against the theory that no degree of binocular vision can be present in those animals. A valuable paper in the field of neurology. G. L. DuP.

Hyslop, George H. Spasmodic Diplopia. Jour. Amer. Med. Assoc., April, 1924.

Hyslop reports a series of these cases which are assumable to a state of vagotonia. In the first case the symptoms disappeared after the patient gave up his inordinate consumption of coffee; the second case had symptoms of ptomaine poisoning, while the third had chronic constipation. The remaining four cases were somewhat similar, and all had symptoms of digestive disturbance.

The author also enumerates other causes of transitory diplopia. The diplopia in these cases was always in the horizontal plane and noticeable on distant vision. G. L. DuP.

Pickard Ransom. Cavernous Optic Atrophy and Its Relation to Glaucoma. British Journal of Opthalmology, August, 1925.

Pickard claims that cavernous atrophy is a distinct entity only casually associated with glaucoma and different from ordinary optic atrophy. The disease has all the characteristics of glaucoma except that the tension is near normal; the pallor of the disc associated with optic atrophy is absent, except where the lamina cribrosa is exposed, and the red field contraction suggests some form of atrophy.

Six cases illustrative of the disease are given with their fields, the author also presenting a case of chronic glaucoma to show the difference between this disease and cavernous atrophy; and a case of relative glaucoma incident to the cavernous atrophy. Generally the prognosis is fair, but the disease is not susceptible to great amelioration.

Pickard denies that the cases given could be classified as either early, intermittent or subsided glaucoma, and discusses factors establishing them as cavernous atrophy similar to that described by Schnabel.

G. L. DuP.

Strebel, J. On Hemianopias (Uber Hemianopien). Arch. f. Augenheilk., Vol. LCIV, February, 1924.

During the war Strebel investigated a large number of cases of head injuries due to bullet or shrapnel wounds. Of eleven cases of binocular hemianopia, two were left-sided with macula involved, two right-sided with macula involved and one right-sided with macula spared, the last showing a relative scotoma of crescentic shape in the hemianopic area; three were of quadrantic hemianopia, one of inferior hemianopia and one of homonymous central scotoma.

Also a large number of cases of occipital injuries in which visual interference was expected, were found to have normal fields.

In every case the patient was unconscious after the injury and woke to find himself completely blind for a few hours, the hemianopia developing gradually.

Strebel found that operative interference had no beneficial effect; that three cases had unilateral reduction of central vision; that the sparing of the macula need not be asymmetrical; that no case had hemianopic pupillary reaction.

He also found that an improvement of the hemianopia could be had by placing in front of the eyes, prisms with bases pointing to the lost field; that the relatives scotoma due to in-

jury does not change, whereas the relative scotoma due to a chiasmal tumor gradually changes into an absolute scotoma.

A few other questions were also elucidated or confirmed. The cases examined are given in detail with the fields and figures showing the position of the head injuries. G. L. DuP.

Oliver, F. S. Aural Disorder and Cylinder Axis. The Optician (British), Vol. LXIX, No. 1792, p. 471. 1925.

Oliver cites a case of a man of 35 who had mixed astigmatism in one eye and had compound hyperopic astigmatism in the other. This patient was observed to hold his head in a somewhat inclined position, tilting it markedly to the right. Inquiry elicited the fact that the inclination was permanent, and was the result of an old aural disorder affecting the internal labyrinth. Oliver points out the interesting fact that whilst the best lines on the charts indicated cylinder axis of 75 degrees and 155 degrees, these had to be changed, because of the tilting to 65 degrees and 145 degrees.

T. O. B.

Allen, F. On Reflex Visual Sensations and Color Contrast. American Journal of Physiological Optics, July, 1925.

Allen rejects the Helmholtz theory that color contrasts are caused by errors of judgment and claims that they are physiologic in nature. In other words, reflex colors are caused by stimulation of the visual centers which in turn produce simultaneous and successive contrast effects.

The article is supplemented by curves demonstrating that six so-called equilibrium colors, whose effects have a neutralizing action on one another, produce no fatigue nor enhancement. Also that light of any frequency falling upon a retinal area enhances by reflex action the three fundamental sensations: red, green and violet in adjoining areas. G. L. DuP.

Chambers, E. R. Diplopia in Encephalitis Lethargia. The Optician (British), Vol. LXIX, No. 1793, p. 490. 1925.

Chambers claims that diplopia is one of the earliest symptoms of encephalitis lethargia (a form of sleeping sickness). He further says that the diplopia may, of course, be that typical of an involvement of one or more of the extrinsic ocular muscles and may occur with or without a manifest squint, but cases also occur in which the diplopia cannot be attributed to this cause. The patient in the following case is typical of many who, during a recent epidemic of encephalitis lethargia, applied to the ophthalmic clinics for relief of the diplopia.

A girl, aged 19, complained of diplopia. Two evenings before seeing him she had headache and giddiness and felt sick; on the following morning she awoke with diplopia; it was very troublesome when looking at distant objects, but was hardly present at all in near vision. There was no drowsiness. The temperature was 101°. There was no history of any recent illness. Examination of the eyes showed no ptosis, no manifest squint; the pupils were normal in size, equal, and reacted to light, and accommodation. The movements of both eyes were normal. Both optic discs and fundi were normal. Examination of the diplopia showed it to be homonymous, with erect images, the unusual feature being that there was no alteration in the relative position of the two images in any of the six cardinal directions of gaze. The first examination was carried out with the candle at 3 metres from the patient; a second examination at 5 metres showed the two images to be farther apart than they were when the examination was performed at 3 metres, but again their relative positions remained the same in the six cardinal directions of gaze. On approximating the candle to 2 feet from the patient the diplopia ceased to exist in any of the six cardinal directions of gaze.

This case, he claims, could not have been one of paresis of any individual muscle, as there was no increase in the distance between the true and false images in the direction of action of any muscle; nor could spasm of accommodation produce this type of diplopia, as in this case the double

vision would have increased as the object was brought nearer the patient and diminished the farther it was removed.

The diplopia disappeared in a week from its onset and the patient made an uneventful recovery, for the time being at any rate. No convergent squint ultimately appeared, as has happened with some of the patients under observation. T. O. B.

V. W. Lemmon. A Modification of the Ladd-Franklin Theory of Color Vision. American Journal of Physiological Optics, July, 1925.

"An attempt is made to explain blackness as a sensation of variable intensity, caused by a definite stimulus, i. e., a photochemical process similar to those assumed by the Ladd-Franklin theory in order to explain white and color sensations, except that a role is added for the 'nascent' state of the photochemical products. This makes blackness a unique and peculiar sensation, of one intensity only, occurring in response to zero stimulation. Another advantage claimed for this modification is that it dispenses with the concepts of retinal fatigue and metabolic exhaustion in the explanation of adaptation and negative after-images." This is taken verbatim from the article itself and is a summary of the subject involved. It might be added that by "nascent" is meant an incipient stage.
G. L. DuP.

Guibert (La Roche-Sur-Yon). Retinal Detachment. Typhoid Fever. Cure. (Decollement de la Retine. Fievre Typhoide. Cure.) La Clin. Ophthal., August, 1924.

A spontaneous detachment of the retina in one eye followed a detachment after a blow in the other. A treatment was started, but discontinued as the patient became confined to bed with typhoid fever. When seen by Guibert six months after its onset, the spontaneous detachment was entirely cured and has remained so.
G. L. DuP.

Clarke, E. Myopia. The Optician (British), Vol. LXIX, No. 1792, p. 476.

Clarke believes that the origin of myopia is an inherited disorder affecting the very early growth of the sclerotic. He suggests that some of the higher cases of myopia were a manifestation of a disease of the tunics of the eye. T. O. B.

Selig-Hecht. General Physiology of Vision. American Journal of Physiological Optics. July, 1925.

The author arrives at the conclusion through his experiments and those of others that, physiologically, vision is a simple photochemical reaction. He found by his experiments on the ciona and the maya, that these animals possess the same property of light and dark adaptation as man, that the process is indefinitely reversible, that the reaction is proportional to the intensity and duration of stimulus, and that the concentration of the photochemical substance is reciprocal to the exposure necessary for response. Also that the reaction in the process of vision is bimolecular, that is, the decomposition products of the photochemical substance are two distinct substances that combine to form the original (dark adaptation).
G. L. DuP.

G. H. Aronsfeld. Some Observations in Phorometry. American Journal of Physiological Optics, July, 1925.

A method of determining vertical imbalances to find which muscle is at fault and to correct accordingly. Quoting the author: "If the vertical imbalance increases at the near point, the imbalance is hyperphoria, the offending muscle is the inferior rectus, and the base of the correcting prism should be placed down. If the vertical imbalance decreases at the near point the imbalance is hypophoria (cataphoria), the offending muscle is the superior rectus, and the base of the correcting muscle should be placed up."

For corrections which are to be worn constantly, if the outlined procedure is followed, hyperphoria should be

more fully corrected than hypophoria. This applies with equal force to those cases which show orthophoria at the distance and an imbalance at near and vice versa. G. L. DuP.

Self-Luminous Traffic Signals. Electrical World. July, 1924.

Form and color are the chief fundamentals of a traffic signal. These can be satisfactorily incorporated in a self-luminous device. Form alone is of very doubtful value because a signal should be recognizable at a reasonable distance. Many persons have vision so defective that they cannot accurately distinguish form at a distance, but the same difficulty is not found in the recognition of color. There is a tradition to the effect that about four per cent of the people are color-blind, but this statement is misleading. Two colors, red and blue-green, can be chosen which admirably suit the requirements. The best authorities believe that not more than one person in a hundred thousand would have difficulty in distinguishing between these two colors. However, it is likely that a thousand times more persons have eye defects so serious as to make form unrecognizable at a moderate distance. Furthermore, fog, rain, smoke and dust often obliterates form when under the same conditions a powerful self-luminous color signal would still be seen as a spot of colored light. Even the selective transmission of fog, smoke and so forth cannot alter these two colors sufficiently to cause them to be confused at any reasonable distance.

Red and blue-green meet the requirements of "stop" and "go" respectively, but many, and with good reason, lean toward the use of an "interval" signal for the purpose of clearing matters before the next signal is flashed. Light yellow, such as canary, is a logical color for this use. After utilizing these colors form may be introduced in many ways. This may be desirable in some cases even at the risk of complication. However, for general traffic requirements no better pair of colors could be found than red and blue-green, and if an interval signal is desired, yellow is the best hue. These are the conclusions of men who are eminently qualified to render an opinion. Experience is proving that self-luminous signals of these colors are entirely satisfactory. It is hoped that standardization and general adoption of this scheme are near at hand.

F. P. B.

Painting an Aid to Illumination. Safety Engineering. August, 1924.

The National Safety Council sets forth nine beneficial effects of proper painting as an aid to interior illumination. There are:

1. Reduction of accidents; 2. Greater accuracy in workmanship; 3. Decreased spoilage of product; 4. Increased production for the same labor cost; 5. Less eye strain; 6. Better working conditions; 7. Less labor turnover; 8. Better order, cleanliness and neatness in the plant; 9. Easier supervision of the men. Proper painting increases illumination, aids in light diffusion and eliminates glare.

"The amount of light reflected by a given paint depends, of course, upon its color," says Walter Sturrock of the General Electric Company. "White paint shows the highest reflection factor, that is, it reflects the greatest percentage of light striking it. A pure white surface will reflect light of all colors at an equal efficiency. On the other hand, a paint having some color in it such as blue, for example, will be an efficient reflector of blue light, but will absorb practically all red rays of light striking it. For light from Mazda lamps, a yellow paint has a higher reflection value than some of the other paints. Where white paint is not wanted, a paint of light cream tone may be used without marked sacrifice in lighting effectiveness."

F. P. B.

The Action of Light on Colored Materials. The Illuminating Engineer (British). May, 1924.

A matter of considerable importance to the textile industry is the permanence of color of pigments used for dyeing fabrics. Fading of colors is essentially a chemical effect, called into play by the action of light, and it appears that the presence of moisture and oxygen are important factors.

Sir Sydney Harmer's experiments led to the general conclusion that exposure to direct sunlight is more injurious to colors than exposure to diffused daylight; and that diffused daylight is itself more active than light from incandescent electric lamps. It is evident, however, that illuminants differ greatly in this respect and the problem of finding a standard artificial source for experiments in fading deserves attention. Tests conducted by sunlight may have to be prolonged for weeks or months, and the matter is complicated by the extreme variability of climatic conditions. According to some experiments recently conducted in the United States the quartz tube mercury arc lamp was found to be the most powerful fading agent, much more so than the carbon arc or sunlight. Incidentally, the tests revealed remarkable differences in the effect of sulight in different areas; the sun in New Jersey was distinctly more powerful than in Arizona. This is another reason for desiring an artificial fading standard. But it is necessary to proceed warily. It was found that whilst very many dyes are more rapidly affected by the mercury arc than by sunlight, there are some pigments for which the reverse is true. Hence, it would seem that the regions of the spectrum most powerful in producing fading may vary according to the nature of the dye employed.

Assuming, however, that a certain range of coloring materials is habitually employed it should be possible to devise a test by artificial light which will serve as a fair indication of the degree of fading likely to occur in practice. In a recent paper before the Illuminating Engineering Society (U. S. A.) it was stated that an enterprising advertising concern has devised a test with an arc light for use in connection with lithographic bill posters. From these tests it was deduced that an exposure of 50 hours to the arc was roughly equivalent to the average exposure to daylight during three to four weeks—the average length of the bill-posting campaign. In Washington the public printer employs a fading machine to test the light-resisting properties of material used for government publications, and leading manufacturers of paints and varnishes already arranged for a test of permanence of color and the usual "weathering" test to proceed simultaneously.

There must be many industries, besides the textile industry mentioned as an obvious example, which would find a standard test of color-permanence of great value and the whole subject deserves further investigation at the hands of research associations working in conjunction with the Illuminating Engineering Society.

F. P. B.

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The Journal has no objection to the reprinting by other magazines of any of its articles, provided such reprints are properly credited to the American Journal of Optometry.

THE OPTOMETRIC FIELD

A certain number of questionably ambitious optometrists have of late been intimating that the optometric field should be broadened to include perhaps the treatment of certain types of ocular pathology. In this we in no way agree. We believe such proposals both ridiculous and absurd and whenever made are detrimental to optometry's best interests.

Optometrists are rapidly becoming America's recognized group of expert refractionists and this small niche which we have carved for ourselves in the professional life of our country should prove both stimulating and a constant source of pride to the members of our profession. Now, the point we wish to make is this—as refractionists we can unquestionably lead, whereas as pathologists we would always have to rank a poor second to medically trained practitioners. As optometrists our word on refractive problems is final, whereas, were we to attempt to treat ocular pathologic conditions, we would forever be subservient to the medical group—and justly so.

"The optometrists' field is cramped," say these men. "We feel the need for further expansion." "We have mastered optometric technique and wish to add to our knowledge and practice."

Let us see just how we have covered the optometric field. Do we know all there is to know about ocular refraction? Can we successfully handle all the purely refractive cases that come our way? And even though we apparently satisfy the majority of our patients, do we understand just what we are doing? Are we fully conversant with the underlying laws of the physiology of vision. We are not—and while the majority of optometrists know more about these things than any other professional group in existence today, there still is much to be added to our sum of technical knowledge.

For instance, can we explain the existence of the various corneal-colors as seen on the outer surface of the cornea when viewing it through the ophthalmometer? There are theories, to be sure, but none that exactly satisfy. And again, in making a tonicity test, what is the reason for the change in the amount of esophoria or exophoria when a green disc is substituted for the customary red? Again theories, but still much to be desired. We could continue these questions for hours, al-

ways with the same result. The optometric field is not a narrow, constricted field, and no optometrist has much more than a superficial knowledge of the laws which govern his work.

Let us establish refractive clinics, study groups and inter-society scientific sections and become better refractionists. The more we go into the scientific phases of our work the more interesting our work becomes and the more thankful we can be that we have at our disposal such accurate and exacting technical work as the optometry of today, and the less will be our desire to add to this field. C. C. K.

BRITISH OPTOMETRISTS

The British optical press of the last several years has carried much comment on the controversy between the medical practitioners and the Sight-testing Opticians, or Optometrists, of England. It appears as though the British optometrists are hard pressed and are perhaps losing some ground in their fight to obtain legal recognition from the Ministry of Health.

The purpose of this short editorial is to bring to the attention of the American optometrists that here is an opportunity for them to display their organization and experience in a friendly manner to our brothers of the Old World.

We propose that the present administration of the A. O. A. could do well to appoint a commission to ascertain in what manner we could be of assistance to the British optometrists. We would suggest that Dr. W. S. Todd, former president of the A. O. A., and editor of the **Connecticut Optometrist,** be appointed to head this commission, as to our knowledge he is the best fitted American to handle this work, because of his visits and associations in England.

A spirit of splendid brotherly interest is shown by the British sight-testing opticians in their contributions to the Odin appeal fund which is raised to assist a French optician in his fight for recognition in France, and we could do a no more worthy act than to duplicate that interest here in the States.

If the British sight-testing opticians are in the wrong, we owe it to optometry that we assist in setting them right, and if they are in the right, but losing ground, we should help them as best we can, as only in that way can we hope for international optometry which will benefit us all. E. O. F.

A CORRECTION

Our attention has been called to the fact that no resolution was passed or expressly presented at the Louisville meeting of the A. O. A., placing a maximum of two years on optometric education as stated in the August issue of the American Journal of Optometry. We are very pleased to note that such a resolution was not presented, but, as the matter was given considerable thought and discussion on the convention floor, we hope that at no time will our national organization go on record as desiring to place optometric education at such a low standard.

E. O. F.

THE VALUE OF PROPER LIGHTING

In a report on industries in the state of Kentucky, the Department of Labor recommends better lighting conditions. In forty-five plants, the lighting was considered unsatisfactory, using glare as well as efficiency as criteria. In twenty-one plants, both natural and artificial lighting were inadequate. Eighty-two establishments had not enough natural lighting but this was corrected by excellent artificial facilities. In thirty-seven plants glare or reflection existed which the workers endeavored to avoid by using eye-shades or pinning newspapers at the windows to soften the light.

A three years' test of the effect of higher illumination on production has been reported by a large industrial concern. At the beginning, the factory was lighted to about 1.2 ft.-c. by lamps suspended from drop cords. Replacing these with 100-watt lamps and overhead reflectors, raised the illumination to 6.5 ft.-c. After this change an increase in production of 13 per cent was noted. Then 150-watt lamps were substituted, giving 9 ft.-c. and the increase in production was 17.0 per cent. Finally 200-watt lamps in overhead reflectors were installed and again there was an increase of production, this time reaching to 25.8 per cent over the original production. F. P. B.

REFRACTIVE COUNSEL

Dr. R. M. Peckham, Optometrist, of 111 Bank Street, Waterbury, Conn., will answer in these columns questions regarding difficult refractive cases. Our readers are requested to send him full particulars of each case, which will be published along with the reader's initials only. These questions and answers will appear monthly. Also in this department Dr. Peckham would like to receive the accounts of unusual cases which have been satisfactorily handled, which will be published, if accepted, over the practitioner's name.

THREE CASES OF ESOPHORIA

Case No. 1. Patient has been suffering from headache and nervous exhaustion for the past five years. Has made the rounds of oculists and optometrists without gaining relief. Age, 30; appears weak, emaciated, sluggish.

Wearing: R. E. + 2.00 Cyl. Ax. 90; L. E. + 0.75 Cyl. Ax. 90. Adduction at distance, 2°. Very painful vision. 6° esophoria.

Ophthalmometer: R. E., 90th meridian 45.50, 180th meridian 42.75. L. E., 90th meridian 45.75, 180th meridian 42.50.

In view of the low adduction, gave twenty prism exercise treatments, raising adduction to 20°, without gaining relief from headaches.

Then changed glasses to O. U., + 1.00 Sph. D. —2.75 Cyl. Ax. 180. Vision more comfortable, but still 6° of esophoria. Vision 20/XX.

Subjective near correction, O. U., + 1.00 Sph. D. + 1.50 Cyl. Ax. 90. With both the near and distance correction, phoria test at near showed accommodative orthophoria. Distance vision with the near correction, 20/XXX with 5° esophoria.

Vertical ductions equal 1° up or down for each eye. (H. L. K.)

Discussion: Typical case of esophoria with sectional accommodation. The low adduction, 2°, means nothing. All esophores show low adduction, doubtless due to nervous exhaustion. The important duction in esophoria is the abduction. If this is low, headaches are bound to be severe. If this is high, the individual is able to make the necessary fusional readjustment without much difficulty.

Prism exercises with the prisms apex out may build up the abduction. They will not decrease the amount of the esophoria, since this is accommodative in origin. The amount of esophoria is only to be reduced by repressing the accommodation with plus lenses, thus bringing convergence and accommodation into equality. But prism exercises of the abduction will assist in breaking down the close relation of the accommodation and convergence, thus helping us to get on more plus power. They will also help build up the ability to handle the esophoria.

Sectional accommodation is proved by the great difference between the ophthalmometer readings and the cylinders accepted. Further, by the wide variance in cylinders accepted at different times and at different distances.

Prism exercises with prism apex in succeeded in establishing a "myopic spasm," which is nothing but an excessive innervation of the accommodation due to an excessive use of convergence. The writer has had similar unfortunate experiences. There is nothing to do but to reverse the prisms and give exercises to undo what we have wrought.

I should bring the near test card close enough to the eyes to establish an exophoria. Then put prisms base in to correct this. This will hold the convergence in check enough to help break down the sectional accommodation. Work out the best possible correction at this point, getting both cylinder and sphere as strong as possible, especially the cylinder. Try to get somewhere near the ophthalmometer reading.

From this point reduce the sphere to the strongest possible at the reading distance. Use this as the reading part of a pair of bifocals. Reduce until distance vision is fairly clear, and use this finding for the distance part of the bifocals. Omit the prisms from the final prescription.

Give these bifocals for constant wear. Have patient return in two or three months, and you will find that the distance correction can be considerably strengthened. Change the glasses from time to time until the original near correction is worn for distance with clear vision. This may take six months, it may take a year or more. Daily exercises to increase the abduction will assist in shortening the time. (R. M. P.)

Case No. 2. Man of 38. Distance correction, O. U. + 0.50 Sph. D. + 1.50 Cyl. Ax. 90. Vision 20/XX. Esophoria, 4° at distance. Exophoria at near 3°. Constant headache. Can only read or do near work for 15 to 20 minutes at a time. (E. H. S.)

Discussion: While there is not much information given in the above, the last sentence tells the whole story. The man has esophoria because he is not fully corrected. He cannot read for any length of time because he is not fully corrected. The association of convergence and accommodation is so strong in these individuals that it is impossible to get behind the interlocking point by ordinary means. But if we will start at the reading point, the accommodation will gladly give up and permit us to put on enough plus to relieve its efforts. If you will give this man bifocals, giving him all the plus he will tolerate for near work, you will begin to break down the unfortunate association between convergence and accommodation. He will be able to maintain close vision for indefinite periods, and his headaches will doubtless immediately cease. (R. M. P.)

Case No. 3. I noticed in one patient showing esophoria in the phoria test that one eye seemed to turn out just a trifle. Using the cover test, I found that eye actually turned out. This surely confuses me. This case measures esophoria, but has the action of exotropia. (W. J. L.)

Discussion: The greatest weakness of all our text-books is their failure to advise us as to the differences between the accommodative and the tonic phorias. The tonic phorias are made with the acçommodation suspended, and show the position the eyes assume before the accommodative-convergence associated impulse carries them into the position of binocular single vision. The accommodative phoria tests are made with the accommodation in force, and show the position into which the eyes are carried by this interlocked accommodative-convergence innervation.

A person might be exophoric, and if at the same time he has a hyperopic error requiring more accommodation to overcome than there is required convergence to care for the exophoria, and if he has plenty of nervous strength to accommodate for the hyperopic error, and if he has developed a close association between convergence and accommodative innervations, the dynamic phoria test will show accommodative esophoria.

This particular case might be one of suspenopsia, in which event, if one eye suspends vision for a minute or so, it will naturally turn out, having lost both the innervational impulse for seeing and for accommodating and converging.

The cover test comes nearer to revealing structural exohporia than any other test we have. But, clinically, its findings are of very little value. We are not much concerned with what each eye does individually when one of them is occluded, but we are vitally interested in what they do when they are working as a pair. We must base our procedure on the findings of the accommodative phoria test. (R. M. P.)

BOOK NOTICES

New Books for review should be sent to Dr. E. O. Fjelstad, 209 Yeates Building, Minneapolis, Minnesota. Only Books of such nature as to be of interest to optometrists will be used in this department. Optometric and Ophthalmic publications that have been issued in the past and which are still procurable through their publishers will also be reviewed, from time to time, as space permits.

BOOK NOTICES

ELEMENTS OF PHYSIOLOGICAL PSYCHOLOGY. By G. T. Ladd, LL.D., and R. S. Woodworth, Ph.D. Illus. P. 704. Charles Scribner's Sons.

This book is a good-sized volume crammed full of excellent material on the physiological and psychological activities of the mind and the sense organs. A lengthy review would necessitate considerable data on the experimental points of view of the authors which can best be understood by a careful study of the contents. The book is divided into three parts: The Nervous Mechanism; Correlations of the Nervous Mechanism and Mental Phenomena; The Nature of the Mind.

E. O. F.

THE OPHTHALMIC YEAR BOOK. Vol. XXI. Edited by **William H. Crisp.** 10 illus., p. 323. Chicago: Ophthalmic Publishing Company, 1925.

This book contains Bibliographies, Digests and Indexes of the literature of ophthalmology for the year 1924 and bears much of interest to the refractionist. Being a digest of the literature, only the choicest thoughts of the authors of the various articles are given. This is not in a sense a reprint of the literature, but an aid for the student not having the opportunity to read everything.

E. O. F.

SPECIAL REPORT

CIVIC DUTIES

W. S. Farmer, Opt. D.
Oklahoma City, Oklahoma

What is your duty to your community, city and profession? Are you known in your county as a professional man, and a public-spirited citizen? If not, who's to blame? Do you represent optometry in a way to reflect credit on your profession? You are needed just where you are; are you filling the bill?

Here are several ways in which you as an individual, and in which you as a member of an optometric society can be of benefit to the community as a whole.

1. Classifications are now open in the Rotary, Lions, Kiwanis, Civitan, and other civic clubs for optometrists, and every civic club should have one; every optometrist should belong to some civic club. Big movements are started here.

2. The Reserve Officers' Corps, U. S. Army, needs optometrists. We need to be known in the army. The writer holds a lieutenancy commission in the Medical Administrative Corps.

3. Certainly every church and Sunday school should have an optometrist among their membership. We, as optometrists, must also cultivate the social side of life.

4. Every Chamber of Commerce in the state has important committees that optometrists should be on. These are the organizations that build cities and make laws, etc.; they are the life of any community. Are we as optometrists doing our part in these movements?

5. Only a few optometrists play golf, tennis, bowling, etc. We cannot afford to neglect sports; our health as well as some of our prestige and good fellowship depend on it, to say nothing of the fun and recreation. Why not two or more counties play a match game of golf or tennis, and get some publicity in that way? Indeed, why

not have a monthly picnic with families, including a few friends, with two or more counties together? Oklahoma County recently held her first picnic of the season and liked it so well that we voted to have one every month all during the summer. Everybody brings their own basket and then spread them all together.

6. You should hold a regular monthly business meeting for education, publicity, plans, etc. We have found clinics, "fellow optometrists acting as patients," conducted by an optometrist in his own office very interesting and successful. If you have an idea, and I have one, if we exchange those ideas, then we have two each. Some optometrists seem to think that if he gives his idea away, he will lose it, whereas he merely gains another in exchange.

7. Much study should be given to school and industrial work by optometrists. More will be explained along these lines later. Lighting and electrical engineering should be most important to optometrists.

Our outstanding need of today is the proper sort of prestige. Optometry —the optometrist, and our great work must be better understood by the public. All is lost if we fail here. This work is both individual and collective, co-operation with one another and civic agencies, and as optometrists we must be ever alert to perform our fullest civic duties.

REPORTS AND ANNOUNCEMENTS OF SOCIETIES

STATE EDITORS

E. B. ALEXANDER, Oklahoma
A. S. ANDERSON, North Dakota
D. A. KINNEY, Iowa
H. B. KOLLOFSKI, Minnesota
C. A. PERRIGO, Nebraska

Reports of Society Proceedings in Iowa should be sent to Dr. D. A. Kinney, Charles City; in Minnesota to Dr. H. B. Kollofski, 211 Exchange Bank Building, St. Paul; in Nebraska to Dr. C. A. Perrigo, Fremont; in North Dakota to Dr. A. S. Anderson, Fessenden, and in Oklahoma to Dr. E. B. Alexander, Duncan.

POST-GRADUATE LECTURE ON CAMPIMETRY TO MARK CLOSING OF MEMBERSHIP DRIVE IN MINNESOTA

The Executive Committee of the Minnesota Association of Optometrists has decided to hold, on October 5th, a one-day post-graduate course in campimetry at the Nicollet Hotel.

Dr. F. P. Barr, of the Bausch & Lomb Optical Company of Rochester, N. Y., will deliver lectures on the use of the stereo-campimeter as a fusion-training device. The use of the campimeter in muscle training is generally little known and the lectures will be of great benefit to the optometrist interested in this work.

Dr. E. H. Kiekenapp, secretary of the A. O. A., will also be present, and will outline the activities of the A. O. A. for the coming year.

After the morning and afternoon lectures, the event will close with a stag dinner where the results of the membership drive will be announced and prizes awarded. Prizes are offered to the four captains enrolling the greatest number of new members. The following members have been appointed to serve on the general campaign committee: Drs. W. D. Amundson, Kerkhoven; A. Aslesson, Redwood Falls; W. H. Bezosky, Minneapolis; George Clark, St. Cloud; Jos. Christopherson, Virginia; H. B. Christenson, St. Paul; J. E. Davis, Litchfield; J. L. Egleston, Wadena; J. C. Galligan, Mankato; E. M. Gerster, Farmington; G. W. Goodwin, Marshall; C. E. Hilden, Winona; Jacob Hub, Mankato; Carrie West Hazelton, Excelsior; Ove Hoegh, Spring Grove; Alton R. Hulbert, Virginia; J. A. Haustein, Red Wing; G. B. Johnston, Pipestone; J. L. Kubicek, Waseca; Ernest Kiekenapp, Faribault; L. J. Korstad, Zumbrota; E. W. Larson, Hibbing; Walter B. Lyon, Albert Lea; Einar Markhus, Minneapolis; George A. McLeod, Two Harbors; Reuben L. Munns, Minneapolis; Francis H. Mock, Waconia; A. H. Nordland, Minneapolis; Walter H. Nordin, Faribault; V. P. O'Brien, Duluth; F. A. Ohlsen, Marshall; H. C. Prey, Mankato; Roy E. Peterson, Minneapolis; D. Wilbur Smith, Pipestone; F. H. Straub, Fergus Falls; J. W. Shimek, Minneapolis; George E. Sward, Springfield; George E. Spofford, Long Prairie; Einar Thoreson, Winnebago; C. C. Tankel, Minneapolis; G. H. Vandesteeg, Sauk Centre; H. O. Watzke, Morris; Edward Widdell, Madelia; O. E. Worman, Minneapolis; George W. Young, Minneapolis.

J. I. KURTZ, Sec'y.
Minnesota State Ass'n of Optometrists.

OKLAHOMA SOCIETY

New memberships since last report: F. W. Bordurtha, Oklahoma City; W. I. Davis, Wewoka; E. C. Harlow, Ardmore; C. D. Haynie, Thomas; Edith Bowser, Fairfax; F. M. Keiser; Hobart; C. H. Beavers, Enid; E. G. Barritt, Tampa, Texas; M. Z. King, Elk City; E. N. Queene, Longview, Texas; C. B. Boulton, Oklahoma City; Ida L. Hale, Oklahoma City.

The organization of the county societies is coming along nicely. Several have reported that they have held meetings and are getting results. A complete plan for group publicity was sent the chairmen a short time ago. Some of the counties have already adopted the plan and have it in operation.

A few reports of unethical practice have been coming in. All of these have been investigated and most of them straightened out satisfactorily without trouble. However, there are two or three who insist on peddling and as soon as our cases are complete on them we will file charges against them with the Board. If an optometrist cannot and will not practice optometry according to law, we are prepared to stop him from practicing altogether.

NORTH DAKOTA CONVENTION

The North Dakota Optometric Association held their twenty-third annual convention at Mandan on the 3rd and 4th of August. In point of attendance and enthusiasm displayed it was the largest and best convention ever held by the North Dakota society.

Resolutions were passed urging the American Optometric Association to take up the fight against mail order spectacles by bringing before the congress of the United States a law that would make eyeglass fitting by mail a violation of the postal laws, and lay the spectacle mail order houses open to prosecution on the count of using the mails to defraud. Similar resolutions were also sent to the North Dakota congressmen urging them to foster such legislation. It was set forth that glasses could be fitted properly only by competent specialists licensed by the state and that fitting glasses by mail was a fraud and a menace to public health.

A code of ethics committee was appointed by President Kornmesser, whose duty it was to adopt a suitable code of ethics for the association and also to compile a satisfactory table of charges for optometric service, lenses, frames, etc., for use as a guide by association members. Dr. A. E. Cannon of Fargo, Dr. A. S. Anderson of Fessenden, and Dr. E. A. Roton of Grand Forks were appointed.

Resolutions were also passed indorsing the movement, started by certain optical wholesalers to restrict the sale of glazed goods to licensed refractionists, as a constructive policy and worthy of the support of optometrists everywhere.

Dr. C. G. Mack of Minneapolis delivered a lecture on the practical application of ocular calisthenics in the daily office practice of the optometrist. He pointed out that in addition to the relief from muscular strain these treatments afford the patient, they would also increase the prestige of the optometrist in the public eye. People who have never been quite satisfied by the medical refractionist due to the fact that muscular strain and not a refractive error was the cause of the eyestrain, will get real satisfaction from a competent optometrist employing ocular calisthenics, and be a new convert to "optometry for optometrists."

The following officers were elected for the coming year: Dr. D. D. Sullivan of Fargo, president; Dr. L. J. Anderson of Grand Forks, first vice-president; Dr. R. McLaughlin of Hope, second vice-president; Dr. A. S. Anderson of Fessenden was re-elected secretary, and Dr. Elizabeth Roton of Grand Forks was re-elected treasurer. Grand Forks was chosen as the 1926 convention city.

The convention closed with a banquet given by the N. P. Benson Optical Co. of Bismarck and Minneapolis, at the Lewis and Clark Hotel at Mandan.

C. A. PERRIGO APPOINTED STATE EDITOR FOR NEBRASKA

The Executive Committee of the Nebraska State Association of Optometrists appointed Dr. C. A. Perrigo of Fremont, Nebraska, as editor for that state to the American Journal of Optometry. The following were reappointed on the collaborators' staff, according to Dr. Fred Gonder, secretary of the State Association: Drs. B. G. Bauman, Alliance; Charles Dickson, North Platte; C. J. Vlack, Omaha.

CENTRAL FLORIDA ASSOCIATION

The Central Florida Optometric Association held its regular meeting at Leesburg with a good attendance. Among those attending was Dr. Dan P. Galvin, Tampa, president of the State Association; Dr. E. M. Ingram, Winter Haven, secretary-treasurer of the State Association, and Drs. Karl R. Eychaner, Tampa, and R. J. Weine, Ocala, members of the State Board. The meeting was very interesting and plans were started for a campaign which included clinics to be held at various points in the state. Dr. Galvin stated he would call a special meeting of the Executive Committee to be held in Orlando for the purpose of completing these plans.

STATEMENT

Walter F. Kimball, President American Optometric Association—For Program of Activities

The meeting of the board of trustees of the American Optometric Association held at Chicago, Illinois, was attended by each member of the board, and many things were accomplished for the revival of interest among the optometrists of the country, the more important being a plan of conducting "national-aid" clinics once each year in each state wishing to join in the plan, under the direction and leadership of one of the "certified clinicians," selected at this meeting. Dr. H. Riley Spitler, one of the trustees, of Eaton, Ohio, was made "director of education," which department will have

control of clinics and lectures, the maintenance and completion of the Association Library, the procurement of new and more extended text, for sale to the individual optometrist, and all other educational activities.

Past President Dr. Thomas H. Martin, of Pittsburgh, Penn., was made "director of public information," and will have control of all the activities of that department, and it is expected that full advantage will be taken in the future of the various activities of the entire association, as subjects for publicity, and that in so doing each activity will become known and understood by all members in each state.

A plan was adopted in connection with the clinics of having the board of trustees select from an extended list made up by its members of many of the leading optometrists of the country, who seem best qualified to conduct clinics, ten members to be certified to by the board as possessing the necessary qualifications essential to that work, and to whom it is proposed to issue "certificates." Those holding such certificates will be available to assist when called upon to conduct clinics.

The American Optometric Association will assist each affiliated association to the extent of one dollar for each of its members in conducting one clinic a year in each state. Should any state desire more than one clinic in a year the services of the certified clinicians will be furnished at actual cost to the state, and the publicity department will cooperate to make of each clinic a real success.

The following members were selected as possessing the essential qualifications to conduct clinics, and will be given certificates to that effect:

Dr. Frederick A. Woll, New York.
Dr. Eugene G. Wiseman, Buffalo.
Dr. Arthur E. Hoare, Los Angeles.
Dr. W. B. Needles, Chicago, Ill.
Dr. W. B. Maybe, Toronto, Can.
Dr. Herbert C. Watts, Syracuse, N. Y.
Dr. A. M. Skeffington, Kearney, Neb.
Dr. E. LeRoy Ryer, New York City.
Dr. Wm. M. Ketchum, Los Angeles.
Dr. H. S. McClung, Regina, Can.

The board adopted a complete set of by-laws, as it had none since the adoption of the new constitution at Kansas City in 1924.

The features of the by-laws are provisions providing for the proper affiliation of state associations, and that for the expulsion of members, for cause, after a fair, impartial constitutional trial.

The board selected a committee consisting of trustees Kimball, Martin, Keikenapp, Spitler and Mayer, to make all plans for and to supervise the 1926 national meeting in San Francisco, which will be held in the month of June next year in compliance with the constitution, but the exact date has not been settled upon. After the Chicago meeting this committee met at Dayton, Ohio, and adopted the plan of electing a "general arrangements committee" in California, which is empowered to create local committees in San Francisco to carry into execution the detailed plans of the annual meeting. The general arrangements committee consists of Dr. Arthur E. Hoare, Los Angeles; Dr. Carl Bernstsen, San Francisco, and Dr. Charles Hobrecht, San Francisco.

Affiliation of state associations will be based upon the payment of the dues for the fiscal year beginning July 1st, 1924, and ending June 30th, 1925, and suitable certificates of affiliation will be issued such associations as have or may comply with this requirement. Should the national, or an affiliated state association, desire to terminate an affiliation, it may be accomplished by a vote of either body, provided sixty days' notice be given of such intention.

The work of the association attorney, Col. Orvel Johnson, Oklahoma City, Oklahoma, will be provided any affiliated association requesting the same of the president or secretary of the A. O. A., and without cost for any possible service that does not necessitate the attorney to leave his office. This includes assistance in all matters relative to past or future incorporation of state associations, writing of constitutions and by-laws for the same; the drafting of proposed amendments to existing optometry statutes and all laws affecting the practice of optometry or pertaining to false advertisements, obtaining money by fraud and the like. A brief will be provided any association requesting same of the attorney for use in connection with any activity of such association.

So much as may be necessary of the sum of six thousand dollars was appropriated for both the department of education and public information. The sum of five hundred dollars was appropriated to the use of the "board of boards." (National body of state examiners.) All outstanding bills were ordered paid and the secretary was authorized to extend the facilities of his office to enable him to maintain the excellent standard of efficiency of that office.

Dr. A. M. Skeffington, Kearney, Neb., who has so successfully conducted a series of post graduate clinics throughout the country, was present and invited to address the board on the matter of extension and development of such clinic during the coming year.

There were many other matters acted upon at the meeting which will be mentioned in succeeding reports. Each leader of the various activities will make personal reports of the detailed plans of his department in the immediate future.

One of the outstanding accomplishments of the meeting was the definite policy adopted of conducting the yearly national meetings by the board of trustees. This action is another step forward of getting the affairs of the association on a business basis. The manufacturers and jobbers have complained and with just cause, of the manner in which the conventions of the past have been farmed out to local committees and that has meant a new committee each year. The committee of the board to handle the coming meeting at San Francisco elected Dr. Walter F. Kimball, chairman, and Trustee Keikenapp, secretary-treasurer of the committee. Dr. Spitler will have full control of the educational program and Dr. Martin will direct all publicity for the meeting. Matters relating to finance will be directed by Dr. Mayer of the committee, also will assist Dr. Kimball in matters affecting the manufacturers and jobbers. Full detailed plans will be forwarded to the committee of "general arrangements" in California at once and with the work already done by the members of the San Francisco Optometric Society, a big start is already made over any plans for previous national meetings.

NOTICE TO CONTRIBUTORS

The editors of the American Journal of Optometry beg to offer the following suggestions to authors who propose to favor them with the publication of their contributions.

(a) Papers and reports are original and accepted only with the understanding that they are to be published in this Journal exclusively.

(b) Authors will receive gratuitously fifty reprints of their articles. Should a greater number be desired—notice of which should be given at the time of mailing manuscript—only the additional cost of press work and paper will be charged the author. The number so ordered should be inclusive of the gratuitous copies.

(c) In preparing a manuscript for the compositor it is requested that the following rules be followed:

1. Write on one side of the paper. Type-written manuscript is preferred.

2. Words to be printed in antique or bold face type should be underscored once, in italics twice, in small capitals three times, and for large upper case type, the manuscript should be so marked.

3. Let the title of your paper indicate its contents. If the paper has a general title, for instance, Case Reports, mention the subject of each special communication—for instance: Case 1. Myopic Astigmia; Case 2, Exophoria and Right Hyperphoria, etc. These special sub-titles will appear on the contents page of each number and on the general index at the close of each year.

4. Illustrations should be carefully drawn on separate sheets.

5. When authors receive proofs for revision, they should correct and return them without delay. We wish, however, to remind our contributors that changes in the copy are equivalent to resetting, causing much additional expense. We therefore request then to make, if possible, no alterations at all in the manuscript, or at least, to limit them to what is of essential importance.

(d) When sending manuscripts to the American Journal of Optometry please address the editor, Dr. Carel C. Koch, 209 Yeates Building, Minneapolis, Minnesota.

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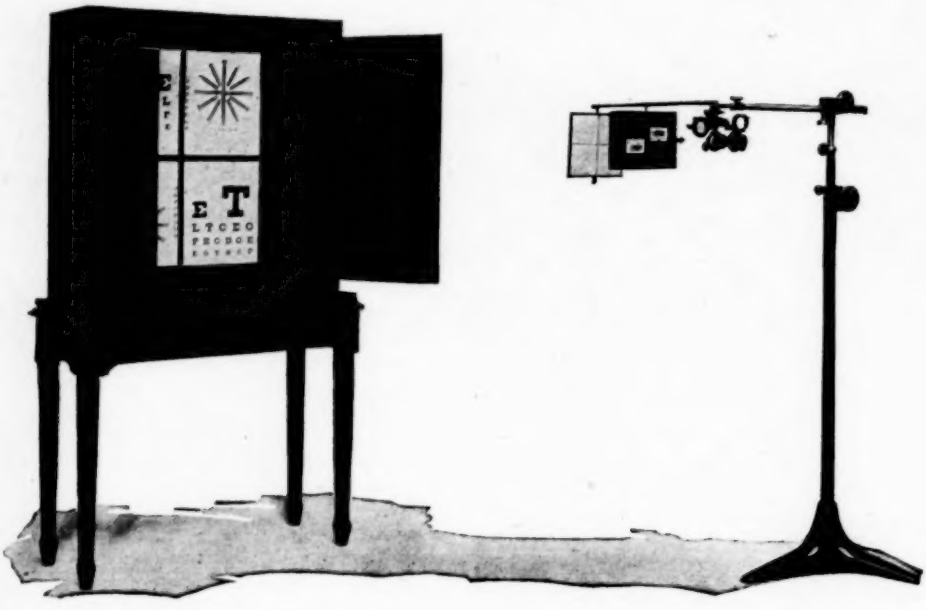

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